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A new genus and two new species of Selenophori group (Coleoptera, Carabidae, Harpalini)

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A b s t r a c t : A new genus of Selenophori group, *Indiophonus*, is established and two new species of the genus, *I. pilosus* and *I. nigricans* are described from India.

Key words : Coleoptera, Carabidae, Harpalini, Selenophori group. *Indiophonus*, new genus, new species, India.

Introduction

In this paper I propose to establish a new genus of Selenophori group, *Indiophonus*. The new genus is peculiar within the genera of the group at the points that the body is compactly furnished with long pubescence and coarse punctures like the species of gen. *Piosoma* LECONTE and the mid tarsal segment in ♂ does not possess ventrally any adhesive hairs. Also I am going to describe two new species, *Indiophonus pilosus* and *I. nigricans* from India. Those are easily distinguished from the other species of the group by the long pubescence and coarse punctures covered wholly and densely on the surface of body.

Before going further I wish to express my cordial thanks to Dr. Fritz Hieke of the Museum für Naturkunde der Humboldt-Universität zu Berlin for his kindly offering many valuable materials. Also I heartily thank Mr. Taichi Shibata, Osaka, for his kind guidance to my study and Dr. Ildefonso Ruiz-Tapiador Aparicio of the Universidad Politécnica de Madrid for his support on the literature.

***Indiophonus* gen. nov.**

Body covered with coarse and dense punctures on both dorsal and ventral sides. Head densely pubescent throughout (even on labrum); labrum hexasetose; clypeus bisetose; frontal impressions finely engraved; antennae pubescent in the following segments from 2nd segments; mandibles short and robust; 2nd segment of labial pal-

pus plurisetose; ligula bisetose at apex; paraglossae glabrous; mentum toothed at apex, bisetose at base of the tooth and sutured with submentum which is bisetose at each side; prosternal process unbordered and setose at apex. Pronotum more or less cordate, wholly with long and dense pubescent; sides furnished with several marginal setae like gen. *Ophoniscus* BATES and not bearing a seta at basal coenars. Elytra possessing long and dense pubescence which spread over epipleura; striae impunctate, scutellar striae present between 1st and 2nd striae; 3rd, 5th and 7th intervals respectively not having a row of setiferous pores. Ventral surface densely pubescent. Coxae, femora, tibiae and dorsal surfaces of tarsi densely pubescent; fore tarsi of ♂ weakly dilated and furnished biserially with adhesive squamae in ventral side; mid tarsi not dilated and ventrally without adhesive squamae in both sexes; 1st segment of hind tarsus almost equal in length to the 2nd and 3rd together. The apical orifice of aedeagus open on dorsal side. Stylus bearing several setae along each external margin.

Type species: *Indiophonus pilosus* sp. nov.

This genus reminds me genus *Carterus* DEJEAN from North Africa, Europe and Russia, in spite of the other subtribe due to the body densely covered with the long pubescence and coarse punctures. Also it resembles subgenus *Ophonus* STEPHENS of genus *Harpalus* LATREILLE. The genus does not belong to Harpali group but to Selenophori group, because the 1st hind tarsal segment is not shorter than 2nd and 3rd segments combined, the frontal impressions are present and the apical orifice of aedeagus does not open laterally.

On comparison with the other genera of Selenophori group, the genus is peculiar in having the mid tarsi without adhesive hairs on ventral sides.

***Indiophonus pilosus* sp. nov.** (Figs. 1, 3, 5-6)

Body oblong, rather flattened, black and shiny, with slightly bluish aeneous tinge on elytra, densely covered throughout with long seta-like pubescence which spreads over labrum, mentum and elytral epipleura and is shorter there, densely and coarsely punctate on both dorsal and ventral surfaces, the punctures bearing the pubescence; palpi, antennae and legs reddish brown.

Head large, a little more than four-fifths pronotal width, with interocular space wide and three-fourths as wide as the width of head including eyes, gently convex, almost flattened on frons; labrum transversely quadrate, truncate at apex; clypeus not raised, narrowly depressed along apical margin, and coarsened due to the confluent punctures; clypeal suture fine and shallow, but clearly carved; frontal impressions shallow, arcuately divergent behind, becoming fine near eyes; eyes large and not prominent; temples relatively long, gently obliquely contracted behind, obtusely

meeting with neck constriction; antennae of the average length and slender, 1st segment very sparsely and 2nd sparsely pubescent in apical half, 3rd twice the 2nd's length and as long as the 4th; mandibles robust and short, vertically truncate at apex of left mandible; maxillary and labial palpi slender, apical two segments of both the palpi densely pubescent, 2nd of labial palpus bearing many setae along front margin and several setae in hind apical margin, one-fourth longer than the 3rd; ligula subparallel at sides, weakly expanded before truncate apex, sharply angulate at apical corners; paraglossae considerably wide, well produced forwards beyond ligula, fused with ligula to the expansion; mentum not transverse, median tooth small, rounded at tip, epilobes relatively wide; microsculpture almost wholly invisible, observable as clear reticulation in apical half area of clypeus and as vague and transverse meshes near supraorbital setae.

Pronotum cordiform, flat on disc, steeply declivous latero-apically, widest at apical two-sevenths; sides gently arcuate from apex to middle, thence straightly oblique behind and clearly sinuate before base; apex uniformly and somewhat deeply emarginate, unbordered in the most part; base as wide as apex, slightly oblique at sides, weakly emarginate in middle, bordered only at the oblique parts; apical angles narrowly rounded; basal angles almost rectangular, very narrowly rounded at tips; basal foveae rounded and more or less deep; lateral furrows running in a line, not widened behind; both front and hind transverse impressions shallowly engraved; median line fine and clear, not reaching apex and base; several marginal setae situated near apical angles, at apical fifth and basal angles; microsculptures obscure, composed of fine and transverse meshes.

Hind wings entirely developed. Elytra oblong, a half longer than wide and one-sixth wider than pronotum, parallel-sided, gently convex, weakly sloped towards apices; apical sinus quite indistinct; apices not produced, closed to each other and very narrowly rounded at tips; bases very shallowly bisinuate, clearly rounded at humeral angles; striae narrow on disc, a little widened apically, seriatly and sparsely punctulate and finely, obscurely crenulate, scutellar striae fully long, adjoining 1st striae; intervals convex, equal in degree of convexity even near apices, dorsal pores of 3rd interval (and / or 5th and 7th) indistinguishable from the regular punctures with pubescence or may be absent; marginal series interrupted medially, composed of 8 + (9-10) umbilicate pores; microsculpture discerned except isodiametric meshes on the 9th intervals under 80 × magnification.

Metepisternum four-fifths longer than wide; 6th abdominal segment bordered throughout along outer margins and bisetose at each side in both sexes, very weakly emarginate in ♂ and gently arcuate at apex in ♀.

Mid coxae and trochanters and hind coxae densely and fore coxae sparsely pubescent; both front and hind areas of and dorso-apical areas of fore and mid femora

densely and hind femora sparsely pubescent; tibiae densely pubescent, fore tibia weakly dilated forwards, trispinous apico-externally, with truncate apex, terminal spur robust and short, blunt at tip, toothed medially at margins; tarsi comparatively short and densely pubescent dorsally, hind tarsi seven-tenths in ♂ and about two-thirds the width of head in ♀, 1st segment equal in length to the 2nd and 3rd combined and twice as long as the 2nd, 4th two-thirds the 3rd, claw segment quadri- or quinqueseptose along each ventral margin.

Aedeagus (Fig. 5) more or less robust, gently arcuate, sharpened distally, apex thin and simple; apical orifice opened above, inner sac armed with a small sclerite; apical lamella small and triangular, narrowly rounded at tip; ventral side unborded. Stylus (Fig. 6) wide and rather well arcuate, with a long seta situated a little far apart from apex and with two short setae at a little inner side of each outer margin; basal segment trisetose near apex; valvifer trisetose along apical margin and bisetose on apico-ventral surface.

Length: 12.7-13.7 mm.

Width: 4.6-4.9 mm.

Holotype: ♂, Nagpore (=Nagpur), India or., (in the Museum of Humboldt University);
paratype: 1 ♀, the same data as the holotype (in my collection).

***Indiophonus nigricans* sp. nov.** (Figs. 2, 4 u. 7)

Body oblong, pitchy black, shiny, without iridescent lustre, wholly covered with pubescence; antennae and legs reddish brown, basal areas of mandibles dark reddish brown, palpi light brown.

Head relatively and uniformly convex, considerably wide, only a little less than three-fourths pronotal width, coarsely and not densely punctate from clypeus to vertex and genae and a little more finely punctate on labrum, the punctures bearing long pubescence; labrum subtransverse and weakly bilobed; clypeus shallowly weakly swollen, emarginate at apex, with the punctures partly confluent; clypeal suture fine and never deepened; frontal impressions reaching supraorbital grooves, mostly fine and shallow except the apical portions somewhat deep; interocular space wide, three-fourths the width of head; eyes small and more prominent than in the previous species; temple glabrous, one-sixth the longitudinal length of eye; mandibles robust and short, gently curved inwards, vertically truncate at tips, terebral tooth trapezoidal in left mandible and weakly triangular in right one, retinacular tooth not exposed, viewed ventrally and truncate in left mandible and a little exposed and blunt at tip in right one; antennae short, more or less thickened distally in 1st to 5th segments, sparsely pubescent in the 1st and 2nd and densely so in the 3rd to apical segment, 3rd one-sixth longer than the 4th and one and seven-tenths the 2nd; genuine ventral margin of eye rather widely separated from buccal fissure; maxillary palpi slender

and sparsely pubescent; labial palpus slender, 1st segment bisetose, 2nd slender and bearing many setae along front and hind margins, 3rd sparsely pubescent, short and seven-tenths the 2nd; ligula constricted before apex which is shallowly emarginate, sharply prominent at apical corners; paraglossae wide and fully prolonged forwards beyond ligular apex, separated from ligula in front from the constriction; mentum comparatively transverse, wide at bottom of apical emargination, median tooth regular-triangular, narrow and small, epilobes well expanded in front, suture with submentum entire and deep; microsculpture invisible under $80\times$ magnification.

Pronotum transversely subquadrate, about a half wider than long (1.55 in ratio), widely flattened on disc, steeply declivous latero-apically, widest at apical fifth, coarsely and rather densely punctate, the punctures especially dense and confluent in part in basal foveae; sides gently arcuately in front and almost straightly contracted behind from the widest point, feebly sinuate before base; apex evenly and somewhat deeply emarginate, unbordered in the most area; base subtruncate, very oblique at sides, obtusely bordered only in the oblique areas; apical angles widely arcuate; basal angles considerably wider than rectangle, narrowly rounded at tips; seven or eight marginal setae arranged from apex to base, the seta at apex and two ones near middle longer than the others; lateral furrows grooved in a line, not widened even near base; basal foveae small and shallow, widely distant to each other; front transverse impression short and obscure, but clearer than the hind transverse one; median line fine and clear, laying between both the impressions; microsculpture unable to be detected under $80\times$ magnification.

Hind wings fully developed. Elytra widely oblong, a half longer than wide, subparallel-sided, more or less convex, a little more steeply declivous towards apices, a little less coarsely punctate than pronotum, furnished with dense and long pubescence not only on dorsal surface but also on epipleura; apices not produced, very gently oblique at margins, closed to each other, obtuse and angulate at sutural angles; apical sinuations distinctly shallow; base weakly arcuately oblique at sides, humeral angles fully rounded, edentate at tips; striae shallow and somewhat wide, finely crenulate, scutellar striole moderate in length; intervals almost flattened, not raised even near apices; marginal series divided into two groups, the fore group composed of 8 umbilicate pores and the hind one of 7-8 pores; microsculpture not observed.

Ventral surface densely and rather coarsely punctate throughout except abdominal segments finely punctate, wholly and densely pubescent; metepisternum well contracted behind, two-thirds longer than wide; apical margin of 6th abdominal segment quadrisetose and rather clearly arcuate at apex in ♀.

Fore coxae sparsely and mid coxae densely setose; dorsal and ventral margins at front side of fore femur and at hind side of mid femur seriatly plurisetose, hind femur bisetose at hind margin; fore and mid tibiae densely and hind tibiae sparsely

pubescent, fore tibia robust, well dilated distally, subtruncat and bearing a tiny protuberance at apex, armed apico-externally with six short spines, terminal spur unidentate at each margin; tarsi densely pubescent on dorsal sides, hind tarsus seven-tenths the width of head in ♀, 1st segment as long as the 2nd and 3rd together and four-fifths longer than the 2nd, 4th one-fourth shorter than the 3rd, claw segment quadrisetose ventrally along each side.

Stylus (Fig. 7) chisel-shaped in lateral view, blunt at tip, with a seta at apical third of inner sides and a very short seta near ventro-external margin.

♂ Unknown.

Length: 10.5 mm

Width: 3.8 mm.

H o l o t y p e : ♀, Karikal, Pondicherry State, South India (without detail data), (in the Museum of Humboldt. University).

The present species of the genus is extremely peculiar in having the mentioned above and important for the consideration of relationship with the species of Selenophori group of Africa and for the Biogeographical information. Therefore I dare to describe it by a single female.

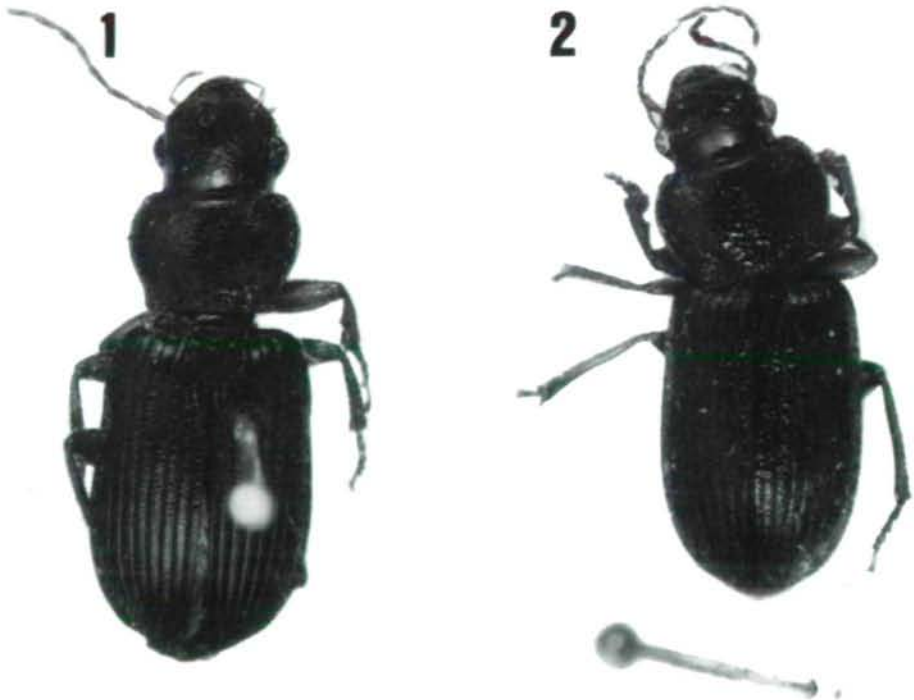
The new species is somewhat similar to *Piosoma setosum* LECONTE from North America, but easily distinguished from the latter by the frontal impressions engraved, the mental tooth present, the pronotum not cordate and not rectangular at basal angles, and the 1st tarsal segment longer and so on.

References

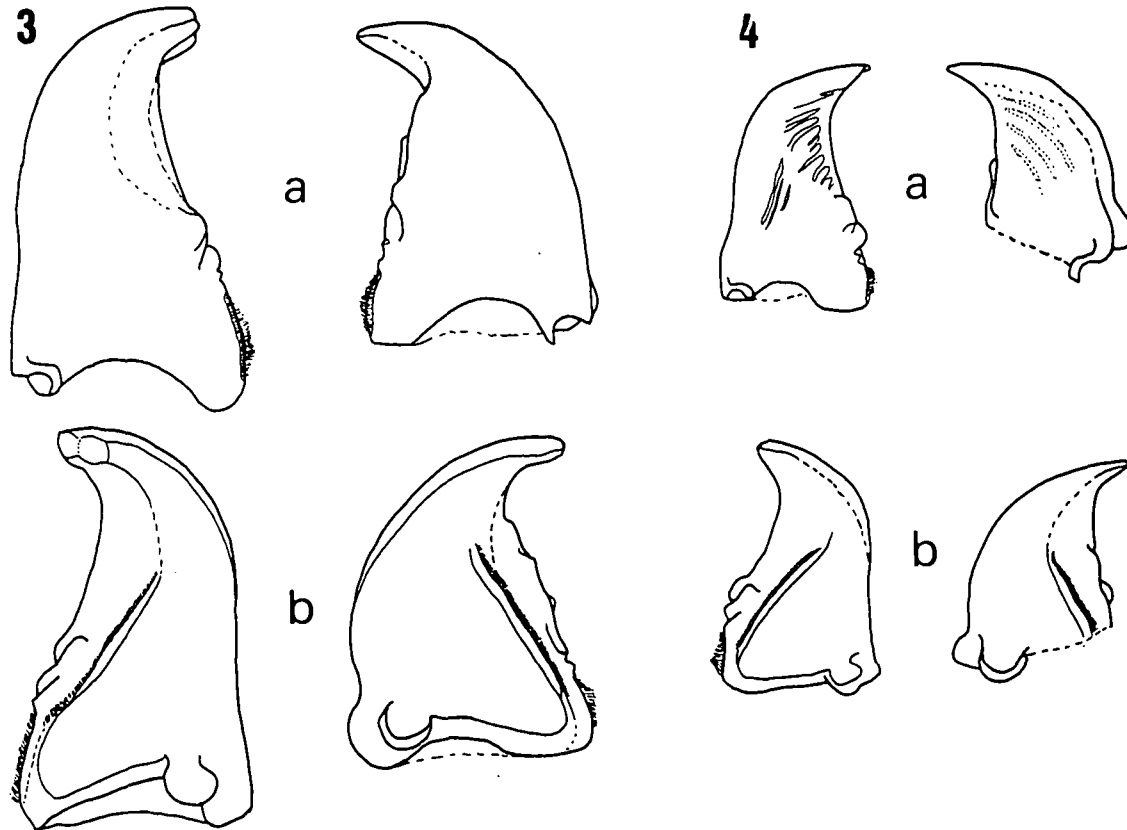
- BASILEWSKY P. (1946): Révision générales des Harpalinae d'Afrique et de Madagascar (Coleoptera Carabidae). Part 1. — Ann. Mus. Royal de l'Africa Centr. et Madagascar. ser.8: 1-238.
- JEANNEL R. (1942): Coléoptères caribique, Deuxième partie. — Faune de France 40: 573-729, Paris.
- LINDROTH C. (1966): The ground-beetles (Carbidae, excl. Cicindelinae) of Canada and Alaska, Part. 4. — Opusc. Ent. Suppl. 24: 409-648.
- NOONAN G.R. (1976): Synopsis of the supra-specific taxa of the tribe Harpalini (Coleoptera: Carabidae). — Quaest. Ent. 12: 3-87.
- NOONAN G.R. (1985): Classification and names of the Selenophori Group (Coleoptera: Carabidae: Harpalini) and of nine genera and subgenera placed in incertae sedis within Harpalina. — Milwaukee Public Mus. Contr. Biol. & Geol. 64: 1-92

NOONAN G.R. (1985): Reconstructed Phylogeny and Zoology of the genera and subgenera of the Selenophori Group (Insecta: Coleoptera: Carabidae: Harpalina). — Milwaukee Public Mus. Contr. Biol. & Geol. **65**: 1-33.

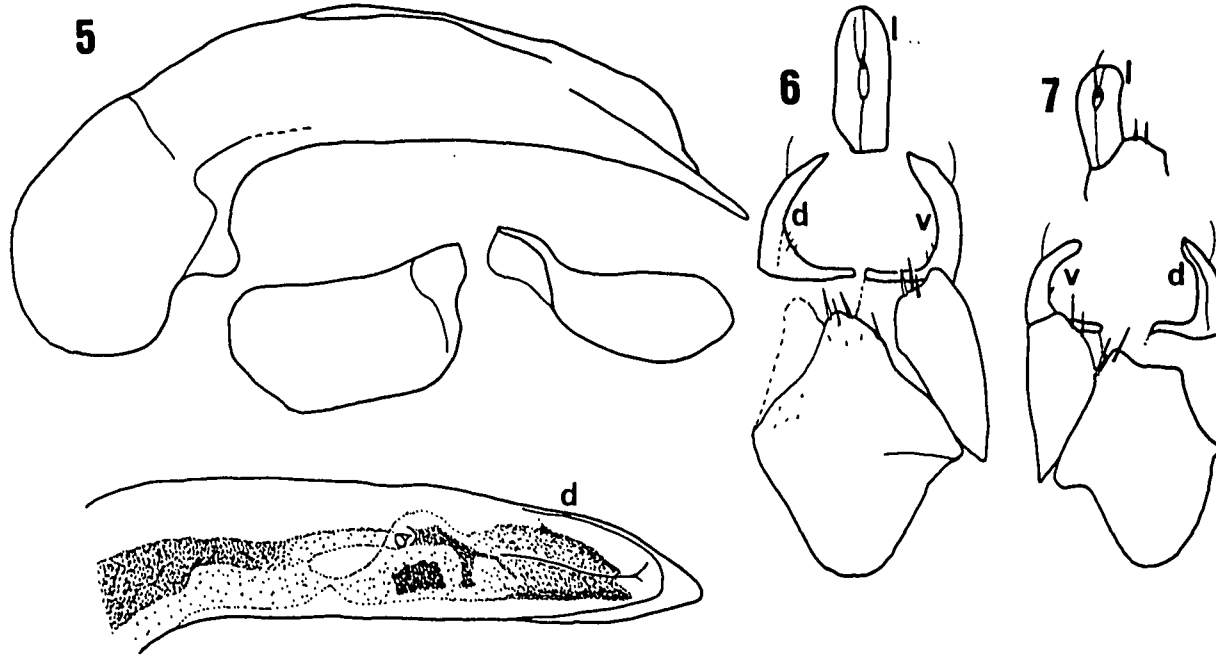
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Figs. 1-2: Habitus of *Indiophonus* spp. 1: *I. pilosus* sp. nov. 2: *I. nigricans* sp. nov.



Figs. 3-4: Mandibles of *Indiophonius* ssp. 3: *I. pilosus* sp. nov. 4: *I. nigricans* sp. nov. a: dorsal view. b: ventral view.



Figs. 5-7: Genitalia of *Indiophonius* spp. 5: Male genitalia. 6-7: Female genitalia. 5-6: *I. pilosus* sp. nov.
7: *I. nigricans* sp. nov. d: dorsal view, l: lateral view, v: ventral view.